

BoF: Automated Testing and Board Farming

Chris Fiege – cfi@pengutronix.de



<https://www.pengutronix.de>

About Me

Chris Fiege
Senior Hardware Developer

✉ cfi@pengutronix.de

🐦 SmithChart

🐙 SmithChart



Board farming

- Automated control of devices
- Working from remote and board sharing
- Automated execution of \$STUFF



Board farming

- Automated control of devices
- Working from remote and board sharing
- Automated execution of \$STUFF

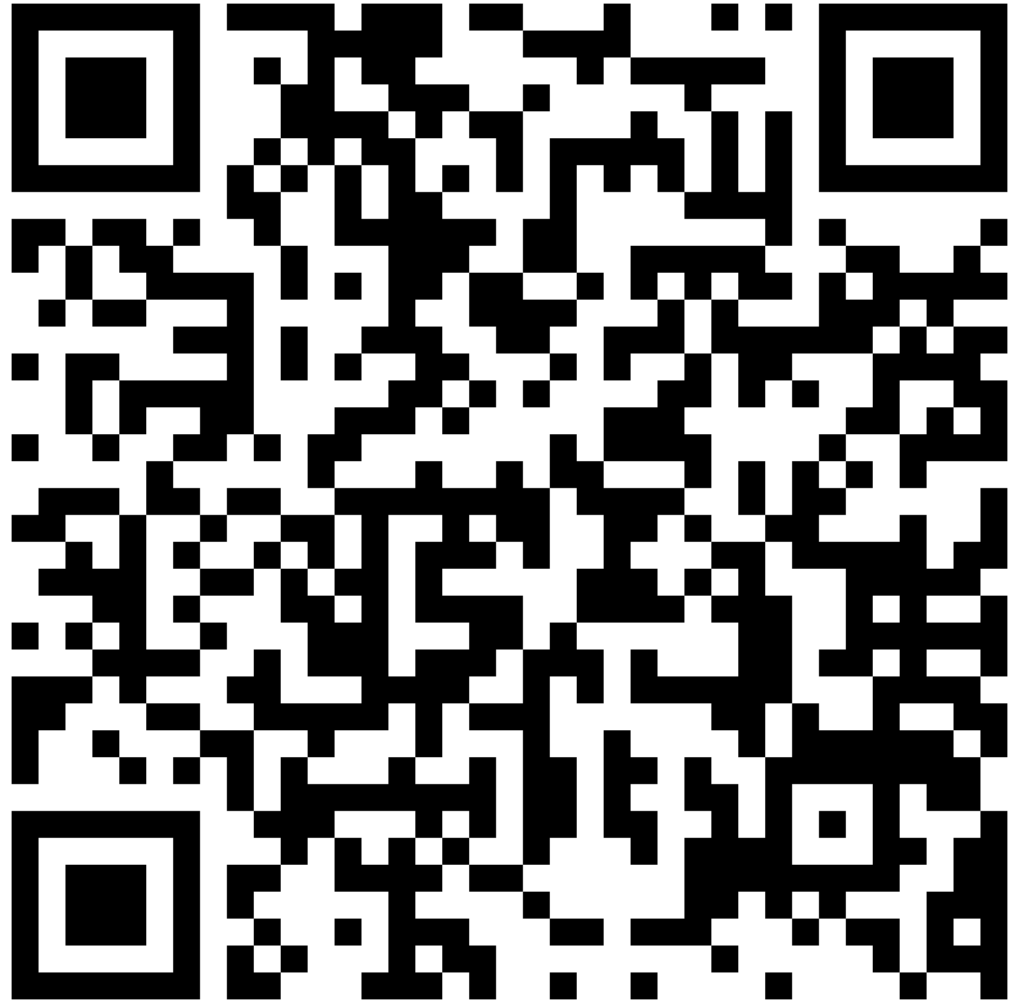
Automated Testing

- Run tests (interactive)
- Continuous testing
- Testing software on real (or emulated) hardware
- Custom test suites for specific device / software
- Generic test suites



Add your topics here:

Link is also in the
abstract for this talk
at
<https://osseu2022.sched.com>



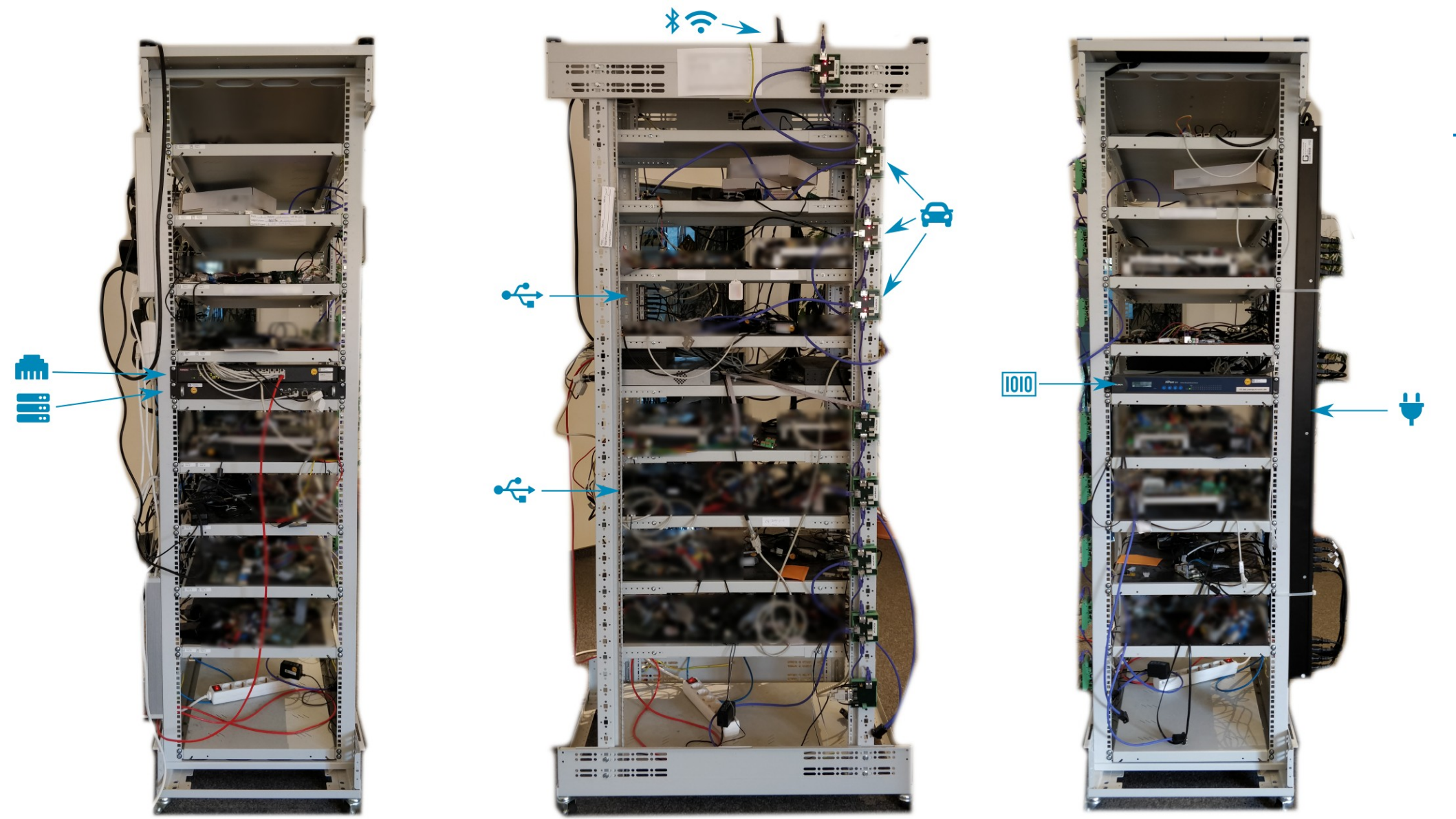
Discussion



Board Farming at Pengutronix (1/2)

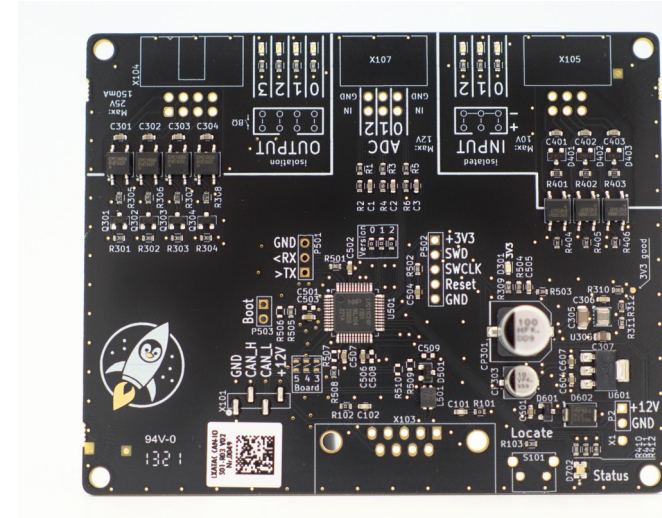
- > 100 different devices under test
- Primary lab consists of 19" server racks





What's new in our lab?

- No more GPIOs on a OneWire-Bus
 - Now: CAN-based: GPIOs
- Multiplexing of USB-Devices
 - Popular!
 - Problem: Hardware availability
- Use one test-server per DUT
 - Prototypes available, still working on EMC



What's missing?

- Graphics stack development:
 - Camera, Board, Display must be on their desks
 - No way to test video input/output
- x86: Keyboard/Mouse input + Video capture
 - No KVM-solution integrated into labgrid
 - OK for development
 - No way to test Keyboard/Mouse or video output



Backup Topics

- What lab automation do you use?
- What is the most unusual interface you support?
- What does it look like in your company: Does every department have it's own board farming system?



